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ABSTRACT

Screening for early identification of learning problems must be done through effective identification procedures which assure all children an equal opportunity for quality education. In order to do this, it is necessary to identify the essential characteristics of an effective screening program, the ways these characteristics might be implemented, and the possible pitfalls which must be avoided. Early identification is a predictive procedure which seeks to identify signs that warn of impending problems, and it should be proven that these warning signs and the methods of their recognition are reliable and valid predictors of future educational difficulties. Unvalidated screening programs are detrimental both to children not served and to those incorrectly classified. Thus, accuracy is an essential characteristic of an exemplary early identification program; the accuracy of the forecast must be demonstrated by specifying exactly what outcome behaviors are being predicted. It is, then, important to specify and measure reliably the set of predictors that one thinks can validly forecast failure in the basic academic skills one, two, or even three years in advance. A screening procedure must be practical as well as accurate. It must be acceptable to all involved (the child, the teacher, and the parents), and it must be cost effective, by utilizing inexpensive materials and requiring a minimum amount of child, teacher, and administrator time. (BD)

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The staff of the LTI-LD, however, feels that the contents of this Preview Series are significant enough to warrant the attention of professionals concerned with the education of the learning disabled. We sincerely hope that this series is relevant to professionals and that it will be shared within the educational community.

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The substance of this paper will appear in the Newsletter of the Pennsylvania Association for Children with Learning Disabilities edited by Joseph Sheare of Penn State University.

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Early Identification:
Predicting School Problems Before They Become Disabling

Gerald M. Senf

Screening for early identification of learning problems is increasingly becoming of concern to parents, teachers, administrators and their support personnel, and even to legislators. The concerns of these diverse interest groups, operating in unique local contexts, must be blended into effective identification procedures which assure all our children an equal opportunity for a quality education. What are the essential characteristics of an effective screening program? How might these characteristics be implemented? And what are the possible pitfalls which must be avoided?

Early identification is essentially a predictive procedure. It tries to forecast as early as possible school-related problems before they happen, before the child develops self-defeating school habits and a negative self-image, and before the whole social system including child, parents, and school become caught in the failure syndrome. Prediction of the future is risky business, especially when the well-being of people is involved. However, failure to recognize that early identification requires forecasting the future can result in naive and, in many cases, discriminatory screening procedures.

I shall first clarify why screening is predictive in nature; then we can see why many approaches are over optimistically simplistic and lead to discriminatory screening procedures. With this background, we can then examine the ingredients of an effective screening program,

Early identification is predictive in intent and must adopt methods

consistent with this purpose. Similar to the medical screening for visual and auditory sensory defects, so long an integral and accepted part of school's responsibility to children, educational screening seeks to identify signs which warn us of impending problems. In screening for visual defects, the examiner refers for more intensive diagnosis those children whose screening-test performance is significantly inferior to that of their peers. Many children referred for further diagnosis may not turn out to have sensory problems ("false positives") while others who "pass" the screening test will in fact require corrective procedures in the future ("false negatives"). Most children will be accurately assessed, the majority with intact vision being so recognized and the few with actual visual difficulties being referred ("hits"). The vision test does not diagnose vision problems; rather, it forecasts with imperfect accuracy their occurrance. It is crucial to recognize that the child's problem does not lie in his inability to pass the screening test itself so much as in what failure on the test implies for his future success on a whole host of educational and life tasks.

Educational screening can learn a lot from the vision example. Sometimes, the warning signs may signal problems but may not be serious problems in and of themselves. The inability of a first grader to name colors, for example, is not in itself so much of an educational problem as it is a signal that some more basic and pervasive learning difficulty may be being signalled. Not knowing colors is really not a serious problem; after all, severely color blind individuals are normally intelligent and achieve normally. Not knowing colors may suggest a learning problem for a normally sighted child, however. Thus, this example illustrates the point that warning signs are typically only partially predictive,

signalling a serious problem for one child but not for another. Also, notice that the inability to name colors is not the child's problem but instead is a predictor that some more basic problem may exist.

The fact that the child's behavior, whether in a defined test situation or in the classroom, is an imperfect predictor of future educationally-relevant behavior forces us to recognize that screening must satisfy an initial requirement before being put into effect. It must be proven that the warning signs and the method of their recognition (measurement) are reliable and valid predictors of future educational difficulties. There is no sense in spending our limited resources and chancing stigmatizing a child by having specialists treat his deviant, clumsy, or otherwise irregular behavior unless his idiosyncracies are predictive of future difficulty in accomplishing accepted educational tasks such as reading, spelling, and arithmetic.

Screening programs I have seen in my consultation with learning disability programs nationwide typically assume that present irregularities predict future problems. Teachers, for example, are routinely required to judge which children need special education or other auxiliary services. The accuracy of their judgements is seldom investigated (though the existing evidence does indicate that the single best predictor of a child's success in school is his teacher's judgement). The abuse to children (and to teachers) occurs when remedial procedures are instituted in cases where there is no evidence that the child's present irregular behavior will lead to future school difficulties.

The abuses of unvalidated screening programs are frequently more detrimental to children not served (false negatives) than to those incorrectly identified (false positives). In the former case, children in need

of services are overlooked, possibly because their appropriate demeanor creates few problems for the classroom teacher, or because their parents lack the time, interest, or academic expectations to seek services for their child. In the latter case, where children are selected who are not seriously in need of services, the possiblity exists that these children will be stigmatized unnecessarily. Also, in these cases, limited resources are being diverted from those in greater need. If a child must bear the stigma of being different, he should have to do so only justifyably, that is if his difference will create serious educational problems for him in later years and if appropriate remedial services are available.

Accepting now the proposition that proper early identification represents accurate, validated prediction of future educational problems, we can further examine the essential characteristics of an exemplary early identification program.

Screening must be both accurate and practical. Accuracy refers to the valid prediction of some future condition which we attempt to alleviate through early intervention. The accuracy of our forecast must be demonstrated, not just assumed. To demonstrate accuracy of prediction, one must specify exactly what outcome behaviors are being predicted so that one can determine whether the prediction is, in fact, accurate. The educator must specify exactly what outcome(s) he thinks will occur when he indicates that a given child is in need of extra-ordinary school services.

I believe the proper outcome behaviors with which early identification programs should concern themselves are the basic academic skills

of reading, spelling, and arithmetic. I might also add to this list social and emotional adjustment within the school context, though prediction of adjustment is very difficult from a measurement standpoint. It is, after all, the child's failure to acquire basic school skills that concerns us. Conversely, it is improper in my opinion to attempt prediction of whether or not the child has a "Learning Disability", an "Emotional Disturbance", or "Minimal Brain Dysfunction" or some other diagnostic entity. These terms refer to intellectual constructions that we have evolved in an attempt to understand inadequate performance. These themselves are judgements that must be validated against external behavioral criteria and so do not have the logical status of criteria against which other predictive instruments can be validated.

Once one can specify the failing behaviors (criteria) that one fears the child may possess unless some intervention occurs, the next task is to measure those criteria reliably. Though improvements can always be made, our present ability to measure basic school skills is sufficient for constructing more than adequate early identification programs.

The next step is to specify and measure reliably the set of predictors that one thinks can validly forecast failure in the basic academic skills one, two, or even three years in advance. It is at this point that one's theory of educational disabilities plays a part in selecting the dimensions to use as predictors. In common with any other enterprise where accuracy of prediction is important, the measurement of the dimensions chosen must be shown to be reliable. Reliable measurement of one's predictors and criterion outcome variables allows one to assess the degree of accuracy of the early identification. Screening procedures whose degree of accuracy is unknown do our children

a great disservice.

Besides being accurate, a screening procedure must be practical. By practical I mean that the screening procedure must be acceptable to all involved and it must be cost-effective. Acceptability to all concerned includes child, teacher, school administration, parent and auxiliary school personnel. The assessment procedures themselves must be as pleasant as possible for the child, the teacher, and the parents. A creatively designed screening program could be enjoyable to all and even have educational value. Information to be derived from the child could be cast in game-like formats. Whereas only a few children with "high risk of future school problems" are being sought, items could be designed so that most children will find them easy. Information sought from teachers and/or parents could be reduced to a minimum through appropriate statistical analyses designed to discover the predictive usefulness of each and every question asked. In addition the screening procedures must be easily conducted making them administratively simple for teachers and school administrators. Furthermore, screening should be integrated with the remedial services so that the resulting information logically interfaces with the following diagnostic steps.

An exemplary screening procedure must also be cost effective. We must reserve the bulk of our educational dollar for the remedial programs. It is my contention that we waste more dollars attempting to remediate irregularities which are at best only partial predictors of future problems (such as naming colors) but which are not in themselves serious difficulties. We also expend tremendous resources doing lengthy diagnoses on children subsequently found not to have any particular school

problem. Accurate screening could measureably reduce these wasted expenditures.

To maximize cost-effectiveness, the exemplary screening procedure must utilize inexpensive materials and require a minimum amount of child,teacher, and administrator time. It must maximize the use of our technology so that professional personnel such as teachers, administrators, school psychologists and other auxiliary staff engage only in those tasks requiring their level of skill, leaving clerical and statistical manipulations to clerks and machines.

Exemplary screening programs require research aimed at (a) isolating and measuring the signs that warn of potential problems and (b) demonstrating that the signs chosen are valid. Research of this kind takes money, money which must be allocated at the expense of present service programs. Without such commitment to research and to the future we will find ourselves living in a future armed only with yesterdays weapons. Our present methods of early identification fall far short of what we can do. Accurate, cost-effective screening should be a high priority in our efforts to provide an equal educational opportunity for all our children.

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